Amendments to the Claims:

Please cancel claims 18-43, and add new claims 44-64 as follows. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. - 43. (canceled)

44. (new) A method of controlling the position of a surgical instrument inside a patient's body the comprising steps of:

inserting a first surgical instrument into the patient's body, the instrument having a means for transmitting an image out of the patient's body;

designating an anatomical feature of interest;

transmitting an image of the designated anatomical feature out of the patient's body;

determining precise 3D positional information about the designated anatomical feature of interest relative to the first surgical instrument;

using the positional information to reposition the first surgical instrument to a desired positional relationship relative to the anatomical feature, where the positional information about the anatomical feature of interest relative to the first surgical instrument is obtained by manipulating a graphics object superimposed on an image of the anatomical feature.

45. (new) A method of controlling the position of a surgical instrument inside a patient's body, as in claim 44, where the positional information about the feature of interest relative to the first surgical instrument is obtained by means of image processing.

46. (new) A method of controlling the position of a surgical instrument inside a patient's body, as in claim 44, where the positional information is used to reposition a second surgical instrument.

47. (new) A method of controlling the position of a surgical instrument inside a patient's body, as in claim 44, further comprising steps of:

designating a desired position of an anatomical feature relative to images transmitted out of the patient's body by the first surgical instrument;

moving the first surgical instrument to a vantage point form which the designated anatomical feature is at the desired position in images transmitted by the first surgical instrument, the first surgical instrument remaining at a constant distance from the designated anatomical feature.

48. (new) A method of controlling the position of a surgical instrument inside a patient's body, as in claim 44, further comprising steps of:

designating a desired direction of motion of an anatomical feature relative to images transmitted out of the patient's body by the first surgical instrument;

moving the first surgical instrument so that it remains at a constant distance from the designated anatomical feature while causing the motion of the designated feature in images transmitted from the first surgical instrument to move in the desired direction.

49. (new) A method of controlling the position of a surgical instrument inside a patient's body, comprising steps of:

inserting a first surgical instrument into the patient's body, the instrument having a means for transmitting an image out of the patient's body;

designating an increment of motion along an axis of view of the first surgical instrument, the axis defined by a line from the vantage point of the surgical instrument to the point on the patient's anatomy that appears in the center of the image transmitted by the first surgical instrument;

moving the first surgical instrument by the designated increment of motion along the axis of view, so that the point on the patient's anatomy appearing in the center of the image remains unchanged.

50. (new) A robotic device for use in surgery, the device comprising:

a first surgical instrument having a proximal end, a distal end, and a shaft extending therebetween, the distal end of the first instrument and adjacent shaft being insertable distally into a first incision;

a first manipulator movably supporting the first instrument;

a plurality of motorized drives coupled to the manipulator;

an input device having an input movable in two degrees of freedom; and

a computer coupling the input device to the motorized drives so that the motorized drives effect a motion of the first surgical instrument in response to movement of the input, a center of the motion located along the shaft at the incision when the first instrument is used during surgery.

51. (new) The robotic device of claim 50, wherein the motorized drives move the distal end of the first instrument with three rotational degrees of freedom about the center of motion in response to movement of the input.

52. (new) The robotic device of claim 50, wherein the motorized drives move the first instrument axially along the shaft in response to movement of the input.

53. (new) The robotic device of claim 52, wherein the manipulator comprises a plurality of actuatable sections extending from a base to the first instrument, and wherein the motorized drives include an axial slide motor, the axial slide motor moving with a plurality of sections adjacent the base, the axial slide motor effecting the movement of the instrument along the shaft.

54. (new) The robotic device of claim 50, wherein the input is movable in six degrees of freedom.

55. (new) The robotic device of claim 50, wherein the first instrument is movable with a five degree of freedom spherical work volume centered at the incision in response to commands from the input device.

56. (new) The robotic device of claim 50, wherein the robotic device constrains lateral movement of the shaft of the first instrument to pivotal movement about the incision so as to inhibit inadvertent enlargement of the incision.

57. (new) The robotic device of claim 56, wherein a workspace of the first manipulator mechanically constrains lateral movement of the shaft of the first instrument to the pivotal movement about the incision.

58. (new) The robotic device of claim 57, wherein the first manipulator mechanically couples the first instrument to a base, the first manipulator having a plurality of computer controlled degrees of freedom adjacent the first instrument and a plurality of manually articulatable degrees of freedom adjacent the base, the manually articulatable degrees of freedom each having a brake for inhibiting movement during computer controlled movement of the first instrument.

59. (new) The robotic device of claim 50, wherein the first instrument comprises a camera, and further comprising a display coupled to the camera so as to show a field of view from within the patient to a surgeon operating the input device.

60. (new) The robotic device of claim 59, wherein the camera comprises a stereoscopic camera, and wherein the display provides a three dimensional display of the field of view.

61. (new) The robotic device of claim 60, wherein the computer effects movement of the camera in response to movement of an object within the field of view.

62. (new) The robotic device of claim 61, further comprising a second surgical instrument having a proximal end, a distal end, and a shaft extending therebetween, the distal end of the second instrument and adjacent shaft being insertable distally into a second incision;

a second manipulator movably supporting the second instrument, the computer coupling the input device to the second manipulator so as to effect movement of the distal end of the second surgical instrument in response by moving the surgical instrument with a center of motion of the shaft disposed at the incision.

63. (new) The robotic device of claim 50, wherein the first instrument comprises jaws coupled to the distal end of the shaft.

64. (new) A robotic surgical method comprising:

inserting a first surgical instrument into a first incision, the first instrument having a distal end, a proximal end, and a shaft extending therebetween, the first instrument being inserted so that the distal end and the adjacent shaft are disposed within a patient;

movably supporting the first instrument with a first manipulator;

moving an input of an input device in two degrees of freedom; and

computing commands in response to the movement of the input; and

moving the first surgical instrument by actuating motorized drives in response to the commands, a center of the instrument movement located along the shaft at the incision.